

**METHOD AND APPARATUS FOR DEVICE  
CONTROLLED GENE EXPRESSION**

**Abstract**

- 5        A gene regulatory system controls gene therapy by emitting one or more forms of energy that regulate gene expression by triggering promoters. The system includes a sensor to sense a signal indicative of a need for the gene therapy as well as responses to the gene therapy. The regulation of the gene expression is controlled based on the sensed signal and/or a user command. In one embodiment,  
10      the system delivers one or more electrical therapies in conjunction with the gene therapy.